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ABSTRACT

This study tested 45 preservice teaching interns for cognitive and performance behaviors, comparing these results with the emphasis on reading in the content areas that the interns received in teacher training. The interns were randomly divided into two experimental groups. One group was trained in content-area reading by both content-area (science and social studies) and reading teachers, while the other group was trained by the reading instructor only. Subsequent observations and tests provided no evidence to suggest a relationship between emphasis in content-area reading and interns' cognitive and performance behaviors. The data suggested that, although the field-based teacher training program effectively transmits knowledge, a broad gap exists between knowledge and performance. The study concluded that further investigation should focus on the influence of the cooperating teacher on the intern's ability to translate knowledge into classroom teaching behaviors. (RL)

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IS IT POSSIBLE TO TEACH READING THROUGH THE CONTENT AREAS? ? ?

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Reading programs attending to the practical implementation of educational theory have been an issue of concern for decades preceeding and following Mary Austin's findings, The Torch Lighters (1961). A second issue that has also plagued reading educators for decades has been that reading is often taught as an isolated subject rather than as a process related to all content areas (Austin & Morrison, The First R 1963). While the base of the early reading program may need to be closely tied to a basal series it should not be entirely so since once the basics of the reading program have been mastered the reader engages in a reading/thinking activity that spans all of the content area subjects.

In an attempt to address the topic of integrating reading in content area instruction, as well as introducing future teachers to practical implementable methods strongly supported by educational theory, a competency-based teacher training program was designed and implemented. This program had an urban focus and was multi-linguistic as well as field-based. Reading/language competencies as the base of all content area learning were stressed. Specifically this one semester, 12 credit hour program explored the integrated methodology of reading/language arts through the content areas of social studies and science.

Objectives

Program objectives were categorized within the following three major areas: Core objectives, content area objectives, and self-assessment objectives.

Core Objectives were divided into six major categories stressing an objectives-based approach to teaching. Instruction in (1) selection and derivation of behavioral objectives was followed by (2) developing competencies in sequencing instruction, (3) application of classroom evaluation techniques, and (4) systematic planning and management of instruction. Basic to these skills was (5) the ability to interpret and apply cognitive theory and (6) ability to identify and implement question-asking skills. The topic of curriculum materials was outlined in two major divisions of teacher competencies: core and interdisciplinary use of curriculum materials.

Content Area Objectives were organized for three content areas (1) reading/ language arts, (2) science, and (3) social studies. Each area included both the content and sequence of those factors considered fundamental to instruction in that content area. Furthermore, instructional concerns which were generic and related to all content areas were necessarily repeated for fulfillment of sequential needs in each particular area. The development of teaching skills in all three content areas facilitated the development of instructional competencies, thus enabling the intern to integrate two or more content areas to provide interdisciplinary experiences for children where possible.

Self-Assessment Objectives comprised two areas of major importance in the preparation of interns. Objectives were designed to aid the interns in recognizing and enhancing their positive attitudinal growth factors. This was accomplished through the adaptation of evaluation models of teaching performance for self-analysis, critique, and remediation.

Implementation

This semester experience, involving junior interns, took place in six urban elementary schools. For 14 of the 16 semester weeks, content area instruction was provided in a school classroom since the university instructors defined field-based instruction as a program of study housed totally in a learning setting other than the university.

Instruction in the content areas was interwoven with experience in the classroom for three days a week. For example, on a typical Tuesday, the junior interns were involved in content course instruction from 8:00 to 9:30 A.M., and for the of the school day, they worked in their assigned classrooms. During this time the interns were supervised by the University instructors as well as their cooperating teacher. Similar patterns were followed on Wednesday and Thursday.

The instructors included three professors, one each from the departments of Reading and Language, Social Education, and Science and Mathematics Education.

Hypothesis

The following program hypothesis was formulated for data collection and analysis:

H_0: There is no statistically significant difference on selected teacher variables between: (A) field-based junior interns trained in reading in the content areas by both the content area (Science and Social Studies) and reading/language arts instructors, and (B) field-based juniors trained in reading in the content areas by the reading/language arts instructor only.

Procedure

At the beginning of the second semester of the 1975-76 academic year 45 interns elected to join this field-based urban program which is only one of several curriculum options open to education majors.

After joining this field-based program, the group of 45 interns was randomly divided into two experimental groups; 22 to experimental group A, and 23 to experimental group B. The treatment of these subgroups differed in that in experimental group A, the reading/language arts instructor as well as the content area staff emphasized reading in the content areas. In group B, reading in the content areas was emphasized only by the reading/language arts while the content area instructors did not emphasize reading methods in their instruction.

The following objectives were held constant by <u>all</u> university instructors when teaching group A and by only the reading/language arts instructor when teaching group B.

A. Identify and justify utilization of printed material.

B. Identify critical vocabulary and symbols peculiar to a given content area.

C. Identify skills needed in reading content material.

D. Describe procedures to aid the child in comprehending a content area selection.

E. Recall procedures appropriate for developing a particular study skill within any content area.

The language arts/reading instructor provided both groups with lecture, study and examples of reading in the content or thematic instruction. For example, this instructor would explore the concept of word recognition through theory and techniques used in the development of readiness skills needed to successfully master a basal reader. After the interns could apply such information, transition was made to the concept that similar word recognition needs occur regardless of the content area being explored. Similar instruction followed for areas of diagnosis, comprehension, and study skills.

The language arts instructor provided both groups with examples of thematic teaching (integrated curricula), which were designed to introduce manageable systems (diagnostic and evaluative techniques, activities) necessary for integrating reading and content area subjects. Similar examples of thematic teaching stressing word recognition, comprehension, and study skills were provided by content area faculty only when they worked with group A. When teaching group B content area staff emphasized only the curriculum of their given content.

Measures

Data on the stated hypothesis included measures of both interns' cognitive acility and interns' performance. Four instruments were developed: the Reading/ Language Arts Exam for the cognitive domain; and the Staff Observation Checklist, Ecology Lesson Plan Evaluation Criteria, and Social Studies Unit Evaluation Criteria for the performance domain.

The Reading/Language Arts Exam was a 54 item multiple-choice test of the cognitive objectives in reading and language arts. Based upon results of item analysis, the instrument was modified to insure discriminatory power. Reliability of the exam was .62.

Interns' performance was observed on two levels: instructional planning and implementation. The Social Studies Unit Evaluation Criteria and the Ecology Lesson Plan Evaluation Criteria assessed the extent to which interns demonstrated transfer of cognitive knowledge to actual classroom lesson planning. Both instruments consisted of explicit statements of behaviors which should be included in the interns' plans. These statements coincided with the program objectives. For example, the Ecology Lesson Plan Evaluation Criteria included such items as: "Utilizes printed material" (Objective A-2); "Identifies reading skills" (Objectives C 1-3). Similarly, items on the Social Studies Unit Evaluation Criteria were objective specific: "Utilizes word analysis skills in content of lesson" (Objective C-1); "Develops the necessary vocabulary for the lesson" (Objective B 1-4). Program staff collectively scored a random sample of interns' ecology lesson plans and units against these criteria.

The Staff Observation Checklist evaluated the degree to which interns integrated the program objectives into their actual teaching. Like the Social Studies Unit Evaluation Criteria and the Ecology Lesson Plan Evaluation Criteria, this instrument consisted of statements of behaviors which should be included in the interns' teaching. Again, these statements were related to program objectives. For each intern, program staff observed a twenty-minute portion of the ecology lesson, checking for each of the stipulated behaviors. Since an interns' score relied upon the individual staff member's perception, rating practice sessions were held using video tapes of similar lessons. Subsequent inter-rate reliability was found to be acceptable at .81.

Data from each of these four measures were then analyzed for differences between groups.

Findings

Statistical analysis of the Reading/Language Arts Exam Pre-Test showed that there were no initial differences between the groups. The mean scores of both groups, 34.7 (A) and 36.1 (B), were comparable. This finding established that neither group had a stronger knowledge base at the outset of the semester. The mean scores of the groups on the post-test, 43.23 (A) and 44.78 (B), reflected the substantial gains made by all interns in their cognitive understanding of reading/language arts competencies. Statistical evidence indicated that the level of final achievement was also comparable between the groups. The difference in course treatment was not reflected in interns' total scores on the Reading/Language Arts measure.

Besides analyzing mean total scores the hypothesis required investigation into related questions. Although mean total scores of the groups were comparable, were there group differences in their specific responses to the reading in the content area items? These items, therefore were further analyzed. The number of interns answering each of these items correctly was tabulated for each group. Again, the groups were found to be similar.

Results from the Ecology Lesson Plan Evaluation Criteria indicated that there were no differences between groups in incorporation of reading into the ecology lesson plans. In fact, the majority of the interns failed to integrate any reading skills into their planning at all.

Results from the Social Studies Unit Evaluation Criteria provided additional evidence that there were no significant differences between the groups in the extent to which reading and instruction in reading skills were included in their lesson

plans. However, in this subject area and activity, interns did successfully incorporate reading instruction into their unit plan.

Finally, interns' actual teaching behavior, as recorded by the staff on the Staff Observation Checklist, failed to evidence any significant differences between groups. Few of the interns were observed implementing reading in the content area principles into their lessons on ecology.

Summary and Implications

In this study no evidence was found to suggest a relationship between an emphasis in reading in the content areas and the interns' subsequent cognitive and performance behaviors. All interns evidenced cognitive mastery of the material, some incorporation of reading in the content area of social studies, and negligible inclusion of such instruction in both the ecology lesson plan and the execution of the ecology lesson.

The lack of differences between groups in cognitive attainment is not wholly unexpected. The interns who participated in the study were all of high caliber. These capable and highly motivated pre-service teachers were all able to grasp the principles of reading in the content areas. However, the general failure of their cognitive mastery to be executed in performance has serious implications for teacher education. This research serves to further document an all-too-frequent trend in education: the broad gap between knowledge and performance. The closing of this gap in teacher education requires attention to another variable, the cooperating teacher. A question which must be explored by institutions committed to field-based instruction is: What is the relative influence of the cooperating teacher and the teacher training institution? Data accrued in this study suggested that the field-based teacher training program effectively transmitted knowledge. However, the influence of the cooperating teacher on the intern's ability to translate this knowledge into classroom behavior is believed to be significant.

> Principals commonly voice the opinion that most teachers do not teach in accordance with the patterns prescribed by teacher-training institutions, but rather teach in accordance with the pattern they observed when they were pupils and which they believe is expected of them. That is hardly surprising. Imitation is a well-established phenomenon. The long period of exposure to teachers during the growing years provides a body of experiences and a pattern to imitate which may well serve the new teacher as a guide to action. This rich background of direct experience with teaching probably provides a much more vivid guide to action in the classroom than does the period of teacher-training which consists so largely of verbal experiences. (Wallen and Travers, 1963, p.454)

Further investigation is imperative but the implication is already becoming clear: in-service teacher training is essential if field-based teacher preparation programs hope to make significant contributions to preservice teachers' ability to teach reading in the content area. The specific nature of the inservice training is critical. The program must consist of implementation strategies since too often inservice education simply reiterates theories previously learned. Increasingly public school teachers are demanding practical inservice education which provides implementation models rather than re-stated, isolated theory. In planning programs with cooperating school teachers, the university staff found that while these teachers could effectively voice thematic teaching theory most of them were not implementing such theories. Thus a field based teacher training program must first provide the classroom teacher with <u>demonstrated</u> implementation strategies before one can hope to observe such strategies being modeled by the undergraduate intern.

When such inservice instruction for cooperating teachers becomes a reality, university interns will also benefit. They will then be able to observe and model cooperating teachers implementing strategies that incorporate reading in the content areas. When attempts to correlate inservice and preservice reading instruction become a reality field-based instruction may then be considered as a preservice teacher training alternative worthy of the effort.

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